

WHAT IS CLAIMED IS:

1. A method of manufacturing piezoelectric wafers of surface acoustic wave (SAW) identification tags, comprising:

using a master reticle to form, on each of said piezoelectric wafers, wafer-independent patterns that encode digits of a first significance for said SAW identification tags; and

using different ones of a library of coding reticles to form, on each of said piezoelectric wafers, wafer-dependent patterns that encode digits of a second significance for said SAW identification tags.

2. The method as recited in Claim 1, further comprising forming a SAW transducer on each of said SAW identification tags.

3. The method as recited in Claim 1, further comprising forming said wafer-independent and wafer-dependent patterns by forming reflectors distributed among a group of slots arranged by both pulse position and by phase position, said reflectors encoding said digits of a first significance and said digits of a second significance.

4. The method as recited in Claim 3 wherein said reflectors are structures that reflect a surface acoustic wave.

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5. The method as recited in Claim 3 further comprising forming a framing reflector on said SAW identification tags, said framing reflector located between said SAW transducer and said group of slots.

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6. The method as recited in Claim 3 further comprising forming a plurality of said groups separated by dead spaces.

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7. The method as recited in Claim 6 wherein said plurality of groups is at least twelve.

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8. The method as recited in Claim 4 wherein at least some of said reflectors are single strips of conductive metal.

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9. The method as recited in Claim 3 further comprising forming an end reflector on said SAW identification tags.

10. A method of manufacturing piezoelectric wafers of surface
acoustic wave (SAW) identification tags, comprising:
using a master reticle on a stepper to form, in multiple
fields across each of said piezoelectric wafers, wafer-independent
patterns that encode digits of a first significance for said SAW
identification tags; and
using different ones of a library of coding reticles on a
stepper to form, in multiple fields across each of said
piezoelectric wafers, wafer-dependent patterns that encode digits
of a second significance for said SAW identification tags.

11. The method as recited in Claim 10 wherein said stepper is
a programmable stepper.

12. The method as recited in Claim 10, further comprising
forming a SAW transducer on each of said SAW identification tags.

13. The method as recited in Claim 10, further comprising
forming said wafer-independent and wafer-dependent patterns by
forming reflectors distributed among a group of slots arranged by
both pulse position and by phase position, said reflectors encoding
said digits of a first significance and said digits of a second
significance.

14. The method as recited in Claim 13 wherein said reflectors
2 are structures that reflect a surface acoustic wave.

15. The method as recited in Claim 13 further comprising
2 forming a framing reflector on said SAW identification tags, said
3 framing reflector located between said SAW transducer and said
4 group of slots.

16. The method as recited in Claim 13 further comprising
2 forming a plurality of said group of slots separated by dead
3 spaces.

17. The method as recited in Claim 16 wherein said plurality
2 of group of slots is at least twelve.

18. The method as recited in Claim 13 wherein at least some
2 of said reflectors are single strips of conductive metal.

19. The method as recited in Claim 13 further comprising
2 forming an end reflector on said SAW identification tags.

20. A method of manufacturing piezoelectric wafers of surface

2 acoustic wave (SAW) identification tags, comprising:

3 establishing wafer-dependent indices for each of said
4 piezoelectric wafers;

5 using a reticle on a stepper to form, in multiple fields
6 across each of said piezoelectric wafers, wafer-independent
7 patterns that encode digits of a first significance for said SAW
8 identification tags; and

9 causing said reticle to follow said wafer-dependent indices
10 and thereby form, in multiple fields across each of said
11 piezoelectric wafers, wafer-dependent patterns that encode digits
12 of a second significance for said SAW identification tags.

21. The method as recited in Claim 20 wherein said reticle is
2 a one power reticle.

22. The method as recited in Claim 20 wherein said stepper is
2 a programmable stepper.

23. The method as recited in Claim 22 further comprising
2 programing said stepper for at least one global wafer-dependent
3 index on said wafer.

24. The method as recited in Claim 20, further comprising
2 forming a SAW transducer on each of said SAW identification tags.

25. The method as recited in Claim 20, further comprising
2 forming said wafer-independent and wafer-dependent patterns by
3 forming reflectors distributed among a group of slots arranged by
4 both pulse position and by phase position, said reflectors encoding
5 said digits of a first significance and said digits of a second
6 significance.

26. The method as recited in Claim 25 wherein said reflectors
2 are structures that reflect a surface acoustic wave.

27. The method as recited in Claim 25 further comprising
2 forming a framing reflector on said SAW identification tags, said
3 framing reflector located between said SAW transducer and said
4 group of slots.

28. The method as recited in Claim 25 further comprising
2 forming a plurality of said group of slots separated by dead
3 spaces.

29. The method as recited in Claim 28 wherein said plurality
2 of group of slots is at least twelve.

30. The method as recited in Claim 25 wherein at least some
2 of said reflectors are single strips of conductive metal.

31. The method as recited in Claim 25 further comprising
2 forming an end reflector on said SAW identification tags.